

ILLUMINATION I—WINTER TERM

January 8

NATURE AND PRODUCTION OF LIGHT

Radiation; wavelength, frequency, Electromagnetic spectrum; visual, infra-red, ultraviolet regions. Spectral energy distributions. Reception characteristics of phototubes, human eye, etc. Production of light; incandescence, luminescence. Fluorescence and phosphorescence. Luminous flux.

LECTURER: Miss M. G. Currie

January 15

VISION—THE EYE

Structure of the eye. Mechanism of perception. Sensitivity to light intensity and colour; adaptation. Visual acuity, contrast sensitivity, persistence of vision. Elementary colour vision.

LECTURER: Dr. P. J. Foley

January 22

VISION—THE TASK

Visual performance; size, time, contrast, brightness background, shape of object, glare. Vision at low levels.

LECTURER: Dr. P. J. Foley

January 29

LIGHTING TERMS AND LAWS OF ILLUMINATION

Photometric concepts, units and definitions. Primary standards of light. Inverse Square Law and Lambert's Cosine Law; relation between flux, intensity, illumination and brightness.

LECTURER: Miss M. G. Currie

February 5-12

FLUX, ILLUMINATION AND BRIGHTNESS CALCULATIONS

Basic source distributions. Total flux. Polar diagram, isocandela diagram, equilux. Point by point method, illumination protractor. Brightness calculations.

LECTURER: Professor V. L. Henderson

February 19

CONTROL OF LIGHT

Reflection: Specular, diffuse and preferential. Refraction. Transmission and absorption. Polarization.

LECTURER: Miss M. G. Currie

February 26

LIGHT SOURCES

Filament lamps. Gaseous discharge lamps. Fluorescent lamps.

LECTURER: Mr. H. G. Jones

March 5

MEASUREMENTS

Visual photometers. Physical photometers. Laboratory and field instruments and measurements. Precautions and limitations.

LECTURER: Mr. G. E. Davidson

March 12

MEASUREMENTS LABORATORY

Student use of photometric equipment.

LECTURER: Mr. G. E. Davidson

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UNIVERSITY OF TORONTO
UNIVERSITY EXTENSION

Session 1962-63

Courses in

ILLUMINATION I

and

ILLUMINATION II

offered in co-operation with the
TORONTO SECTION
ILLUMINATING ENGINEERING SOCIETY

ILLUMINATION I AND II

Offered in co-operation with the Toronto Section of the Illuminating Engineering Society, these courses are designed to provide an educational background in the fundamental principles of illumination. It is *not* a technical training course.

These courses should be of interest to all people who are directly concerned with illumination design in their day to day work as well as consulting engineers, architects, lighting equipment manufacturers, distributors, salesmen and contractors.

There are no fixed entrance requirements but a knowledge of elementary trigonometry is strongly recommended. The courses are designed to follow a logical sequence of topics therefore students are advised to start with Illumination I unless they feel they have covered the material in previous courses.

These courses will consist of a series of lecture and tutorial problem periods. Because of the emphasis placed on open discussion, enrolment in each course is limited to 40.

COURSE DIRECTOR

Miss M. G. Currie, B.A.Sc., P.Eng.,
Department of Applied Physics,
University of Toronto.

COMMITTEE MEMBERS

Mr. N. W. Bethune,
Chairman, Education Committee of the
Illuminating Engineering Society,
G. & M. Products, Ltd.
Mr. C. Albini,
C.L.M. Industries.
Mr. G. E. Mulvey,
C. E. Mulvey and Associates.
Miss M. G. Currie,
University of Toronto.

TIME: 7:30 p.m.

Illumination II beginning Oct. 9 to Dec. 11
Illumination I beginning Jan. 8 to Mar. 12

PLACE: Room 25, Engineering Building

FEES: \$25.00 each
(A \$5.00 examination fee is included)

Registration:

By mail or in person at Room 201, 84 Queen's Park,
9 a.m. to 5 p.m. daily, except Saturdays. Information
may be obtained by telephoning WA. 3-6611, locals 301,
304, 526, 527.

ILLUMINATION II—FALL TERM

October 9

CIRCUITS AND CONTROLS FOR LIGHT SOURCES

Ballasts and power factor correction for gaseous discharge lamps. Dimmer controls.

LECTURER: Mr. H. F. Davidson

October 16

ILLUMINATION FOR SEEING—QUANTITY AND QUALITY

Quantity: Illumination versus task.
Quality: Colour, colour, modelling, shadows.

LECTURER: Mr. H. F. Davidson

October 23

BASIC LIGHTING DESIGN

Selection of source. Source distribution. Selection of luminaire. Brightness and illumination considerations. Colour harmony.

LECTURER: Mr. H. F. Davidson

October 30

BASIC LIGHTING DESIGN

Review of lighting terms. Lumen method. Interference Method.

LECTURER: Miss M. G. Currie

November 6

DAYLIGHTING DESIGN PRINCIPLES

Variability of daylight. Fenestration. Sun Control. Orientation. Maintenance.

LECTURER: Miss M. G. Currie

November 13

BASIC LIGHTING DESIGN PROBLEMS

Student solution of problems involving basic lighting design principles.

LECTURER: Miss M. G. Currie

November 20

ARCHITECTURAL CO-ORDINATION

Integration of architectural and engineering principles in the design of a visual environment.

LECTURER: Mr. W. Fleury

November 27

WIRING

Electrical code. Methods of wiring. Distribution systems. Conductors, circuits and their calculation. Economics of wiring. Design procedure. Specifications.

LECTURER: Mr. J. Ghisvin

December 4

WIRING PROBLEMS

Student solutions of wiring problems.

LECTURER: Mr. J. Ghisvin

December 11

LIGHTING ECONOMICS

Methods of cost analyses. Economic factors affecting lighting design. Effect of lighting systems on other services.

LECTURER: Mr. B. Quan